Amendments to the Claims:

1. (Currently Amended) An apparatus, comprising:

a wireless station operable in a wireless network using an adaptive bitloading (ABL) technique, wherein said wireless station is capable of using a predetermined limited set of modulation patterns to perform said ABL and wherein said N_{BL} patterns are stored a-priori and said number of allowed patterns is limited to some set of N_{BL} patterns which is less than N_{mod}^{Nsc} patterns with N_{sc} being the number of subcarriers in an OFDM symbol.

2. (Cancelled)

3. (Cancelled)

4. (Cancelled)

5. (Original) The apparatus of claim 1, further comprising at least one additional wireless station that is capable of receiving packets from said wireless station and upon packet reception of said packets by said at least one additional wireless station, said at least one additional wireless station determines which of said N_{BL} patterns is best for current channel conditions and sends back to said wireless station an index of a pattern instead of said pattern itself.

6. (Original) The apparatus of claim 5, wherein said wireless station uses said pattern index to obtain said bitloading pattern, modulate data with said pattern, and send data to said at least one additional wireless station advanced by said bitloading pattern index.

7. (Cancelled)

8. (Currently Amended) A method, comprising:

using a predetermined limited set of modulation patterns to perform adaptive bit loading (ABL) by a wireless station operable in a wireless network to compress said modulation patterns in wireless communications and wherein said N_{BL} patterns are stored a-priori and said number of allowed patterns is limited to some set of N_{BL} patterns which is less than N_{mod}^{Nsc} patterns with N_{sc} being the number of subcarriers in an OFDM symbol.

9. (Cancelled)

10. (Cancelled)

11. (Cancelled)

12. (Currently Amended) The method of claim 8, further comprising receiving packets from ~~said~~ a wireless station by at least one additional wireless station and upon packet reception of said packets by said at least one additional wireless

station determines which of said N_{BL} patterns is best for current channel conditions and sends back to said wireless station an index of a pattern instead of said pattern itself.

13. (Original) The method of claim 12, further comprising using said pattern index by said wireless station to obtain said bitloading pattern and modulating data with said pattern and sending data to said at least one additional wireless station advanced by said bitloading pattern index.

14. (Cancelled)

15. (Currently Amended) A computer readable medium encoded with computer executable instructions, which when accessed, cause a machine to perform operations comprising~~A machine-accessible medium that provides instructions, which when accessed, cause a machine to perform operations comprising~~:

using a predetermined limited set of modulation patterns to perform adaptive bit loading (ABL) to compress said modulation patterns in wireless communications and wherein said N_{BL} patterns are stored a-priori and said number of allowed patterns is limited to some set of N_{BL} patterns which is less than N_{mod}^{Nsc} patterns with N_{sc} being the number of subcarriers in an OFDM symbol.

16. (Cancelled)

17. (Cancelled)

18. (Cancelled)

19. (Currently Amended) The computer readable medium encoded with computer executable instructions ~~The machine-accessible medium~~ of claim 15, further comprising said instructions causing said machine to perform operations further comprising receiving packets from a ~~said~~ wireless station by at least one additional wireless station and upon packet reception of said packets by said at least one additional wireless station, said at least one additional wireless station determines which of said N_{BL} patterns is best for current channel conditions and sends back to said wireless station an index of a pattern instead of said pattern itself.

20. (Currently Amended) The computer readable medium encoded with computer executable instructions ~~The machine-accessible medium~~ of claim 19, further comprising said instructions causing said machine to perform operations further comprising using said pattern index by said wireless station to obtain said bitloading pattern and modulating data with said pattern and sending data to said at least one additional wireless station advanced by said bitloading pattern index.

21. (Cancelled)

22. A system, comprising:

a first wireless station; and

a second wireless station in communication with said first wireless station using an adaptive bitloading (ABL) technique, wherein said first and said second wireless stations are capable of using a predetermined limited set of modulation patterns to perform said ABL and wherein said N_{BL} patterns are stored a-priori and said number of allowed patterns is limited to some set of N_{BL} patterns which is less than N_{mod}^{Nsc} patterns with N_{sc} being the number of subcarriers in an OFDM symbol.

23. (Cancelled)

24. (Cancelled)

25. (Cancelled)

26. (Original) The system of claim 22, wherein said second wireless station is capable of receiving packets from said first wireless station and upon packet reception of said packets by said second wireless station, said second wireless station determines which of said N_{BL} patterns is best for current channel conditions and sends back to said first wireless station an index of a pattern instead of said pattern itself.

27. (Original) The system of claim 26, wherein said first wireless station uses said pattern index to obtain said bitloading pattern, modulate data with said pattern, and send data to said second wireless station advanced by said bitloading pattern index.

28. (Cancelled)